

Arizona Department of Water Resources

Arizona Colorado River Shortage Sharing Workshops Shortage Allocation Analysis Part 2

Arizona Colorado River Shortage Sharing

Shortage Allocation Analysis

The following tables show the allocations of shortages among various water user categories for the shortage volumes of:

- 400,000 AF, 500,000 AF, and 600,000 AF

There are 4 shortage allocation options:

- The “Straw Man” Proposal (Priority 4 Mainstem Users Share based on a Flat 10% of Consumptive Use)
- Priority 4 Mainstem Users Share Shortage based on Maximum Contract Entitlements – 164,652 AF
- Priority 4 Mainstem Users Share Shortage based on Maximum Consumptive Use – 122,000 AF
- Priority 4 Mainstem Users share Shortage based on Annual Projected Consumptive Use

Each table shows total shortage volumes by water user category for the following years in which a shortage starts:

- 2010, 2016, 2025, 2031

SHORTAGE ALLOCATION SUMMARY
"STRAWMAN PROPOSAL"
SHORTAGE YEAR - 2010

Water User Category	Shortage Volume		
	400,000	500,000	600,000
Mexico	66,667	83,333	100,000
Nevada	37,200	46,500	55,800
Unused Excess Pool	91,075	91,075	91,075
AWBA M&I Firming	117,050	117,050	117,050
Replenishment Reserve Pool	25,975	25,975	25,975
P5 Unused Entitlement Contractors	15,000	15,000	15,000
CAGR Annual Obligation	7,659	7,659	7,659
Secondary Excess Use	15,000	15,000	15,000
10% P4 Mainstem	10,542	10,542	10,542
10% of CAP Non-Indian Agricultural Pool	13,832	40,000	40,000
Net CAP Non-Indian Agricultural Pool	0	47,865	121,898
NIA Priority Pool	0	0	0
M&I and Indian Pool	0	0	0
Net Shortage to Arizona	296,133	370,167	444,200
Total Shortage	400,000	500,000	600,000

Arizona Colorado River Shortage Sharing

Limitation on Arizona Water Banking Authority

Arizona Revised Statutes § 45-2427 B. states:

“The authority shall not store Colorado river water that would otherwise have been used in this state pursuant to a contract entered pursuant to § 48-3703, paragraph 2, a § 5 contract under the boulder canyon project act (P.L. 108-6; 43 United States code § 617) with a priority that is equal to or higher than a contract entered into pursuant to § 48-3703, paragraph 2 or any other § 5 contract under the Boulder canyon project act entered into before the effective date of this amendment to this section. The authority shall not store for interstate water banking purposes Colorado river water that would otherwise have been used in this state.”

Arizona Colorado River Shortage Sharing

SHORTAGE ALLOCATION PROCEDURE EXAMPLE P4 MAINSTEM - SHARING BASED ON MAXIMUM ENTITLEMENTS SHORTAGE YEAR - 2010

Water User Category	Shortage Volume 500,000	Remaining Volume	Remarks
Mexico at 16.7%	83,333	416,667	Share equals 1.5 MAF/9.0 MAF
Nevada at 9.3%	46,500	370,167	Share equals 295 KAF/3.2 MAF (Post 1929 contracts). <i>Net shortage to Arizona</i>
AWBA Firming	117,050	253,116	
P5 Unused Entitlement Contractors	15,000	238,116	<i>Net shortage to Priority 4 users</i>
P4 Mainstem at 10.4%	24,773	213,344	Share equals 165 KAF/1.58 MAF (Sum of CAP and Mainstem)
Unused Excess Pool	91,075	122,269	
Replenishment Reserve Pool	25,975	96,294	
CAGR Annual Obligation	7,659	88,635	
Secondary Excess Use	15,000	73,635	
CAP Non-Indian Agricultural Pool	73,635	0	
NIA Priority Pool	0	0	
M&I and Indian Pool	0	0	
Total Shortage	500,000		

SHORTAGE ALLOCATION SUMMARY
P4 MAINSTEM - SHARING BASED ON MAXIMUM ENTITLEMENTS
SHORTAGE YEAR - 2010

Water User Category	Shortage Volume		
	400,000	500,000	600,000
Mexico	66,667	83,333	100,000
Nevada	37,200	46,500	55,800
AWBA M&I Firming	117,050	117,050	117,050
P5 Unused Entitlement Contractors	15,000	15,000	15,000
P4 Mainstem	17,070	24,773	32,475
Unused Excess Pool	91,075	91,075	91,075
Replenishment Reserve Pool	25,975	25,975	25,975
CAGR Annual Obligation	7,659	7,659	7,659
Secondary Excess Use	15,000	15,000	15,000
CAP Non-Indian Agricultural Pool	7,303	73,635	139,966
NIA Priority Pool	0	0	0
M&I and Indian Pool	0	0	0
Net Shortage to Arizona	296,133	370,167	444,200
Total Shortage	400,000	500,000	600,000

Arizona Colorado River Shortage Sharing

SHORTAGE ALLOCATION PROCEDURE EXAMPLE
P4 MAINSTEM - BASED ON MAXIMUM CONSUMPTIVE USE

SHORTAGE YEAR - 2010

Water User Category	Shortage Volume 500,000	Remaining Volume	Remarks
Mexico at 16.7%	83,333	416,667	Share equals 1.5 MAF/9.0 MAF
Nevada at 9.3%	46,500	370,167	Share equals 295 KAF/3.2 MAF (Post 1929 contracts). <i>Net shortage to Arizona</i>
AWBA Firming	117,050	253,116	
P5 Unused Entitlement Contractors	15,000	238,116	<i>Net shortage to Priority 4 users</i>
P4 Mainstem at 8%	18,827	219,289	Share equals 122 KAF/1.54 MAF (Sum of CAP and Mainstem)
Unused Excess Pool	91,075	128,214	
Replenishment Reserve Pool	25,975	102,239	
CAGRD Annual Obligation	7,659	94,580	
Secondary Excess Use	15,000	79,580	
CAP Non-Indian Agricultural Pool	79,580	0	
NIA Priority Pool	0	0	
M&I and Indian Pool	0	0	
Total Shortage	500,000		

SHORTAGE ALLOCATION SUMMARY
P4 MAINSTEM - BASED ON MAXIMUM CONSUMPTIVE USE
SHORTAGE YEAR - 2010

Water User Category	Shortage Volume		
	400,000	500,000	600,000
Mexico	66,667	83,333	100,000
Nevada	37,200	46,500	55,800
AWBA M&I Firming	117,050	117,050	117,050
P5 Unused Entitlement Contractors	15,000	15,000	15,000
P4 Mainstem	12,974	18,827	24,681
Unused Excess Pool	91,075	91,075	91,075
Replenishment Reserve Pool	25,975	25,975	25,975
CAGR Annual Obligation	7,659	7,659	7,659
Secondary Excess Use	15,000	15,000	15,000
CAP Non-Indian Agricultural Pool	11,400	79,580	147,760
NIA Priority Pool	0	0	0
M&I and Indian Pool	0	0	0
Net Shortage to Arizona	296,133	370,167	444,200
Total Shortage	400,000	500,000	600,000

Arizona Colorado River Shortage Sharing

SHORTAGE ALLOCATION PROCEDURE EXAMPLE
P4 MAINSTEM - SHARING BASED ON ANNUAL CONSUMPTIVE USE
SHORTAGE YEAR - 2010

Water User Category	Shortage Volume 500,000	Remaining Volume	Remarks
Mexico at 16.7%	83,333	416,667	Share equals 1.5 MAF/9.0 MAF
Nevada at 9.3%	46,500	370,167	Share equals 295 KAF/3.2 MAF (Post 1929 Contracts). <i>Net shortage to Arizona</i>
AWBA Firming	117,050	253,116	
P5 Unused Entitlement Contractors	15,000	238,116	<i>Net shortage to Priority 4 users</i>
P4 Mainstem at 6.8%	16,478	221,638	Share equals 105 KAF/1.52 MAF (Sum of CAP and Mainstem)
Unused Excess Pool	91,075	130,563	
Replenishment Reserve Pool	25,975	104,588	
CAGRD Annual Obligation	7,659	96,929	
Secondary Excess Use	15,000	81,929	
CAP Non-Indian Agricultural Pool	81,929	0	
NIA Priority Pool	0	0	
M&I and Indian Pool	0	0	
Total Shortage	500,000		

SHORTAGE ALLOCATION SUMMARY
P4 MAINSTEM - SHARING BASED ON ANNUAL CONSUMPTIVE USE
SHORTAGE YEAR - 2010

Water User Category	Shortage Volume		
	400,000	500,000	600,000
Mexico	66,667	83,333	100,000
Nevada	37,200	46,500	55,800
AWBA M&I Firming	117,050	117,050	117,050
P5 Unused Entitlement Contractors	15,000	15,000	15,000
P4 Mainstem	11,355	16,478	21,601
Unused Excess Pool	91,075	91,075	91,075
Replenishment Reserve Pool	25,975	25,975	25,975
CAGRD Annual Obligation	7,659	7,659	7,659
Secondary Excess Use	15,000	15,000	15,000
CAP Non-Indian Agricultural Pool	13,019	81,929	150,839
NIA Priority Pool	0	0	0
M&I and Indian Pool	0	0	0
Net Shortage to Arizona	296,133	370,167	444,200
Total Shortage	400,000	500,000	600,000

COMPARISON OF SHORTAGE VOLUMES FOR SHORTAGES STARTING 2010

Water User Category	400,000 Acre-feet Shortage			
	Strawman Proposal	P4 Mainstem - Contract Maximum	P4 Mainstem - Maximum Use	P4 Mainstem - Annual Use
Mexico	66,667	66,667	66,667	66,667
Nevada	37,200	37,200	37,200	37,200
AWBA M&I Firming	117,050	117,050	117,050	117,050
P5 Unused Entitlement Contractors	15,000	15,000	15,000	15,000
P4 Mainstem	10,542	17,070	12,974	11,355
Unused Excess Pool	91,075	91,075	91,075	91,075
Replenishment Reserve Pool	25,975	25,975	25,975	25,975
CAGRDR Annual Obligation	7,659	7,659	7,659	7,659
Secondary Excess Use	15,000	15,000	15,000	15,000
CAP Non-Indian Agricultural Pool	13,832	7,303	11,400	13,019
NIA Priority Pool	0	0	0	0
M&I and Indian Pool	0	0	0	0
Total Shortage	400,000	400,000	400,000	400,000